

IN THE CLAIMS

1. (Currently Amended) Electrical connector or electrical switching element comprising a metallic core and a galvanically deposited metal containing coating layer, the metal containing coating layer being deposited by electrolytic composite plating and the coating layer comprises a metal matrix and distributed therein particles selected from the group consisting of particles having electrically conductive properties, particles having lubricating properties, particles having wear resistance properties and particles having properties of increasing the temperature durability or combinations of particles from those groups, ~~characterised in that~~ wherein the electrical connector or electrical switching element has been made from a continuously coated metal strip comprising the metallic core and the galvanically deposited metal containing coating layer.

2. (Currently Amended) Electrical connector or electrical switching element according to claim 1, ~~characterized in that~~ wherein the electrically conductive particles are selected from the group ~~comprising~~ consisting of carbonaceous materials ~~such as soot, graphite and carbonaceous nanotubes~~, and electrically conductive ceramic materials comprising borides, ~~such as titanium boride and iron boride; nitrides such as titanium nitride and chromium nitride; sulfides such as titanium sulfide, tantalum disulfide and molybden disulfide~~, and electrically conductive oxides ~~such as titanium oxide~~.

3. (Currently Amended) Electrical connector or electrical switching element according to claim 1 ~~or 2, characterized in that~~ wherein the particles having lubricating properties are selected from the group ~~comprising~~ consisting of polymers, ~~such as PTFE~~,

~~polyimide and polyamide, carbon containing particles such as essentially pure carbon and graphite, ceramic particles such as molybdeen disulphide and borium nitride, and lubricating means containing capsules such as capsules containing polyphenylether or organic lubricating means, and optionally the particles having lubricating properties also having corrosion inhibiting additives.~~

4. (Currently Amended) Electrical connector or electrical switching element according to ~~any one of the preceding claims, characterized in that~~ claim 1, wherein the particles having wear resistance properties are selected from the group ~~comprising~~ consisting of ceramic particles ~~such as aluminium oxide, zirconium oxide, silicon carbide, boron nitride and titanium nitride, and optionally carbonaceous nanotubes.~~

5. (Currently Amended) Electrical connector or electrical switching element according to ~~any one of the preceding claims, characterized in that~~ claim 1, wherein the particles having properties of increasing temperature durability are selected from the group ~~comprising~~ consisting of heat resistant and conductive ceramic particles ~~such as aluminium oxide, zirconium oxide, silicon carbide, diamond-like boron nitride and titanium nitride, and carbonaceous materials such as soot, graphite and carbonaceous nanotubes.~~

6. (Currently Amended) Electrical connector or electrical switching element according to ~~any one of the preceding claims, characterized in that~~ claim 1, wherein the co-deposited metallic matrix of the coating layer on the continuously coated metal strip mainly

comprises one or more metals selected from the group consisting of nickel, copper, tin, zinc, chromium and alloys or combinations thereof.

7. (Currently Amended) Electrical connector or electrical switching element according to ~~any one of the preceding claims, characterized in that~~ claim 1, wherein the metallic core mainly comprises one or more metals selected from the group consisting of low carbon steel, high-strength steel, stainless steel, copper, ~~including bronze, and~~ brass and multilayer composites alloys or mixtures thereof.

8. (Currently Amended) Electrical connector or electrical switching element according to ~~any one of the preceding claims, characterized in that~~ claim 1, wherein the distributed particles have a size in the range of 0.001-15 μm , ~~preferably in the range of 0.1-15~~ μm .

9. (Currently Amended) Electrical connector or electrical switching element according to ~~any one of the preceding claims, characterized in that~~ claim 1, wherein the volume fraction of the distributed particles in the co-deposited coating layer is in the range of 0.7% to 30% of the volume of the coating layer.

10. (Currently Amended) Electrical connector or electrical switching element according to ~~any one of the preceding claims, characterized in that~~ claim 1, wherein the thickness of the metal strip is in the range of 0.1 to 1.5 mm.

11. (Currently Amended) Electrical connector or electrical switching element according to ~~any one of the preceding claims, characterized in that~~ claim 1, wherein the coating layer has a thickness in the range from 0.2-10 μm , ~~preferably in the range of 1-5 μm .~~

12. (Currently Amended) Electrical connector or electrical switching element according to ~~any one of the preceding claims, characterized in that~~ claim 1, wherein the particles of at least one group, ~~preferably of all groups of particles,~~ are homogeneously distributed in the coating layer.

13. (Currently Amended) Method for the manufacture of an electrical connector or electrical switching element according to ~~any of the claims 1 to 12, characterized in that~~ claim 1, comprising:

feeding a metallic core ~~is fed~~ through a galvanic bath and

depositing a coating layer ~~is deposited~~ on at least one side of the metallic core in a continuous or semi-continuous manner, wherein a metal matrix and particles selected from the group of particles having electrically conductive properties, particles having lubricating properties, particles having wear resistance properties or particles having properties of increasing temperature stability and combinations thereof, are co-deposited on the metal core to form the coating layer, and

manufacturing the electrical connector or electrical switching element ~~is manufactured~~ from the coated metal core.

14. (Currently Amended) Continuously coated metal strip according to claim 32, for the manufacture of components for electrical connectors or electrical switching elements comprising a said metallic core and a said galvanically deposited metal containing coating layer, the metal containing coating layer being deposited by electrolytic composite plating and the coating layer comprises a said metal matrix and distributed therein particles selected from the group consisting of particles having wear resistance properties.

15. (Currently Amended) Continuously coated metal strip according to claim 14, wherein the particles having wear resistance properties are selected from the group ~~comprising~~ consisting of ceramic particles ~~such as aluminium oxide, zirconium oxide, silicon carbide, boron nitride and titanium nitride,~~ and optionally carbonaceous nanotubes.

16. (Currently Amended) Continuously coated metal strip according to claim 32, for the manufacture of components for electrical connectors or electrical switching elements comprising
a said metallic core and a galvanically deposited metal containing coating layer,
the metal containing coating layer being deposited by electrolytic composite plating and the coating layer comprises a said metal matrix and distributed therein particles selected from the group of electrically conductive particles, selected from the group ~~comprising~~ consisting of electrically conductive ceramic materials comprising borides, ~~such as titanium boride and iron boride;~~ nitrides ~~such as titanium nitride and chromium nitride;~~ sulfides ~~such as titanium sulfide,~~

~~tantalum disulfide and molybden disulfide~~, and electrically conductive oxides ~~such as titanium oxide~~.

17. (Currently Amended) Continuously coated metal strip according to claim 32, for the manufacture of components for electrical connectors or electrical switching elements comprising a said metallic core and a said galvanically deposited metal containing coating layer, the metal containing coating layer being deposited by electrolytic composite plating and the coating layer comprises a said metal matrix and distributed therein particles selected from the group of particles having lubricating properties, selected from the group ~~comprising~~ consisting of polymers, ~~such as PTFE, polyimide and polyamide~~, ceramic particles ~~such as molybden disulphide and borium nitride~~, and lubricating means containing capsules ~~such as capsules containing polyphenylether or organic lubricating means~~.

18. (Currently Amended) Continuously coated metal strip according to claim 32, for the manufacture of components for electrical connectors or electrical switching elements comprising a said metallic core and a said galvanically deposited metal containing coating layer, the metal containing coating layer being deposited by electrolytic composite plating and the coating layer comprises a said metal matrix and distributed therein particles selected from the group of particles having properties of increasing temperature durability, selected from the group ~~comprising~~ consisting of heat resistant and conductive ceramic particles ~~such as aluminium oxide, zirconium oxide, silicon carbide, diamond-like boron nitride and titanium nitride~~.

19. (Currently Amended) Use A method of use of a continuously coated metal strip according to ~~any one of the claims 14-18~~ claim 32, comprising manufacturing in the manufacture of an electrical connector or electrical switching element comprising at least a portion of the strip.

20. (Currently Amended) Method for the manufacture of a continuously coated metal strip according to ~~any of the claims 14 to 18, characterized in that~~ claim 32, wherein a metallic core is fed through a galvanic bath and a coating layer is deposited on at least one side of the metallic core in a continuous or semi-continuous manner, wherein a metal matrix and particles selected from the group of particles having electrically conductive properties, particles having lubricating properties, particles having wear resistance properties, ~~or~~ particles having properties of increasing temperature stability and combinations thereof, are co-deposited on the metal core to form the coating layer.

21. (New) Electrical connector or electrical switching element according to claim 1, wherein the electrically conductive particles are selected from the group consisting of carbonaceous materials selected from the group consisting of soot, graphite and carbonaceous nanotubes, and electrically conductive ceramic materials comprising borides selected from the group consisting of titanium boride and iron boride; nitrides selected from the group consisting of titanium nitride and chromium nitride; sulfides selected from the group consisting of titanium sulfide, tantalum disulfide and molybdenum disulfide, and titanium oxide.

22. (New) Electrical connector or electrical switching element according to claim 1, wherein the particles having lubricating properties are selected from the group consisting of polymers, selected from the group consisting of PTFE, polyimide and polyamide, carbon containing particles selected from the group consisting of essentially pure carbon and graphite, ceramic particles selected from the group consisting of molybdenum disulphide and borium nitride, and lubricating means containing capsules selected from the group consisting of capsules containing polyphenylether or organic lubricating means, and optionally the particles having lubricating properties also having corrosion inhibiting additives.

23. (New) Electrical connector or electrical switching element according to claim 1, wherein the particles having wear resistance properties are selected from the group consisting of ceramic particles selected from the group consisting of aluminium oxide, zirconium oxide, silicon carbide, boron nitride and titanium nitride, and optionally carbonaceous nanotubes.

24. (New) Electrical connector or electrical switching element according to claim 1, wherein the particles having properties of increasing temperature durability are selected from the group consisting of heat resistant and conductive ceramic particles selected from the group consisting of aluminium oxide, zirconium oxide, silicon carbide, diamond-like boron nitride and titanium nitride, and carbonaceous materials selected from the group consisting of soot, graphite and carbonaceous nanotubes.

25. (New) Electrical connector or electrical switching element according to claim 1, wherein the distributed particles have a size in the range of 0.1-15 μm .

26. (New) Electrical connector or electrical switching element according to claim 1, wherein the coating layer has a thickness in the range of 1-5 μm .

27. (New) Electrical connector or electrical switching element according to claim 1, wherein the particles of all groups of particles, are homogeneously distributed in the coating layer.

28. (New) Continuously coated metal strip according to claim 14, wherein the particles having wear resistance properties are selected from the group consisting of ceramic particles selected from the group consisting of aluminium oxide, zirconium oxide, silicon carbide, boron nitride and titanium nitride, and optionally carbonaceous nanotubes.

29. (New) The continuously coated metal strip of Claim 16, wherein the coating layer comprises said metal matrix and distributed therein particles selected from the group of electrically conductive particles, selected from the group consisting of electrically conductive ceramic materials comprising borides, selected from the group consisting of titanium boride and iron boride; nitrides selected from the group consisting of titanium nitride and chromium nitride; sulfides selected from the group consisting of titanium sulfide, tantalum disulfide and molybdenum disulfide, and titanium oxide.

30. (New) The continuously coated metal strip of Claim 17, wherein the coating layer comprises a metal matrix and distributed therein particles selected from the group consisting of particles having lubricating properties, selected from the group consisting of polymers selected from the group consisting of PTFE, polyimide and polyamide, ceramic particles selected from the group consisting of molybdenum disulphide and borium nitride, and lubricating means containing capsules selected from the group consisting of capsules containing polyphenylether or organic lubricating means.

31. (New) The continuously coated metal strip of Claim 18, wherein the heat resistant and conductive ceramic particles are selected from the group consisting of aluminium oxide, zirconium oxide, silicon carbide, diamond-like boron nitride and titanium nitride.

32. (New) Continuously coated metal strip for the manufacture of components for electrical connectors or electrical switching elements comprising a metallic core and a galvanically deposited metal containing coating layer, the metal containing coating layer being deposited by electrolytic composite plating and the coating layer comprises a metal matrix and distributed therein particles selected from the group consisting of particles having wear resistance properties, electrically conductive particles, particles having lubricating properties, particles having properties of increasing temperature durability and combinations thereof.